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Harvesting, Ecuador.

South America's Beef Industry

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Ecuador's grain output is expected to rise in 1974, along with most of its other food crops. See article beginning on page 8.

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South America's Beef Industry: Boom for Some; Bust for Others

By ROBERT R. ANLAUF
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SOUTH AMERICA'S beef industry, although rich in potential for large-scale expansion in production and in exports, is struggling against a complex of challenging factors that include—depending upon the country considered—limitation of imports in traditional markets, strong but unfilled domestic demand for meat, cattle diseases, political instability, and massive transportation problems.

The probability of an early change in this state of affairs does not appear to be close at hand.

For decades, the natural geography of the principal beef-exporting countries of South America—Argentina, Brazil, Paraguay, and Uruguay[1]—with its latent promise of potential high levels of beef production has been a temptation to the world's cattle industry.

Weather and climate for cattle raising in the main production areas of all four countries are excellent. Droughts, when they occur, are usually of short duration and cover only small areas, compared with the larger areas that often are involved when droughts hit such countries as the United States and Australia.

Investors, eager to exploit this potential, have flocked to the area.

What has been the outcome? Some successes; some failures. While beef production has developed greatly in these four countries, a vast potential remains undeveloped. And a state of uncertainty over future expansion prevails.

The likelihood of any dramatic change in the marketing practices of the cattle industry in South America is regarded as slight. The industry is dominated by a relatively small number of owners, and any abrupt departure from established marketing patterns is not likely in the short term.

Argentina has the most developed and sophisticated cattle industry of the four countries. However, a combination of domestic political unrest and the loss of the European Community (EC) market has temporarily stymied the development of the industry.

A high level of domestic beef demand leaves little room for long-run expansion of exports, and in the short term

[1] **The author has just returned from an inspection trip of these countries.**

SOUTH AMERICA: CATTLE SITUATION IN FOUR LARGEST BEEF-PRODUCING COUNTRIES

Country	Cattle population[1]	Calving rate[2]	Slaughter take-off[3]	Dressing yield[4]	Per capita consumption[5]	Production time[6]
	Mil. head	*Percent*	*Percent*	*Percent*	*Pounds*	*Months*
Argentina	57.0	63	20	58	174	24
Brazil	[7] 85.0	48	12	50	37	48
Paraguay	4.6	50	12	50	77	48
Uruguay	12.0	60	16	52	154	42

[1] Estimated total cows, calves, heifers, steers, bulls, and buffaloes on January 1, 1975. [2] Example: 100 bred cows producing 63 calves in 12-month period = 63 percent calving rate. [3] Total slaughter in 12-month period as percent of total population. [4] Carcass weight (less offal) divided by live weight. [5] Total beef consumption (carcass weight equivalent) divided by 1974 population. [6] Time required from birth to 1,000 pounds live weight. [7] Trade sources indicate 78-85 million head range.

the quantity of meat available for export varies erratically from year to year due to the industry's cyclical nature.

Brazil, on the other hand, currently is unable to produce enough beef for its growing domestic needs, even though only about 40 percent of the population can afford beef at current retail prices.

Per capita consumption in both 1973 and 1974 is the lowest of the four countries considered here—only 37 pounds carcass-weight equivalent (cwe).

Sandwiched between the two giants of Argentina and Brazil are the smaller countries of Paraguay and Uruguay.

Paraguay now appears to be in a position to enter a period of major development of its cattle industry.

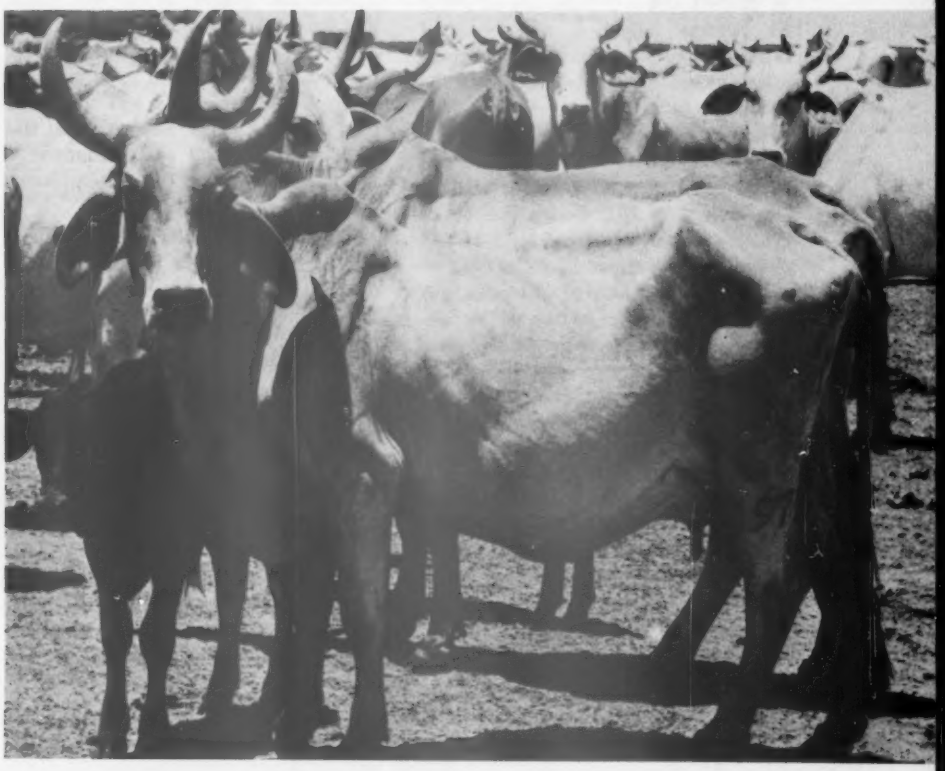
Uruguay appears, too, on the threshold of developing not only a rapid increase in cattle population but also a sophisticated cattle industry utilizing supplemental grazing crops and advanced cattle management techniques.

With a slaughter increase in Uruguay now almost a certainty, export possibilities would appear to be bright. But with the closing of the EC market plus the lack of plants to process and can beef, this potential could become an unwelcome burden.

Due to current political stability and

Hereford bull, left, at show in Uruguay, where cattle population is rising steadily. Cattle grazing, below, on Brazilian pastureland. The Brazilian Government is cooperating with the cattle industry in an improvement program. At bottom, cattle in Paraguay's Oriente region.

In this Argentine meat packing plant, special cuts are prepared for export. Loss of the EC market may bring efforts to expand Argentina's exports to other areas.



somewhat lower consumer prices, per capita consumption—which had been falling for several years—is expected to rise to 154 pounds (cwe) in calendar 1974.

Argentina's cattle industry is the most sophisticated, with good pasture management programs, abundant slaughter facilities, a good transportation system, and a more stable production capacity. However, problems do exist. The loss of the EC market and the recent political upheavals have generated significant problems for the industry.

"... prospects of Brazil's again becoming a major beef exporting nation are years in the future."

Alternative export markets are being sought in the Mideast as well as in East European countries. Several recent sales have been concluded with the Soviet Union, which should ease the pressure on the marketing of Argentina's fresh, chilled, and frozen beef.

The cattle slaughter rate in Argentina is about 20 percent of the total cattle population of about 57 million head. The time required to produce a 1,000-pound grass-fed animal is about 2 years, compared with 15 months for a 1,000-pound grain-fed animal in the United States. A dressing yield of about 58 percent and a calving rate of about 63 percent reflect a well-developed breeding and range management program within Argentina's cattle-raising industry.

Per capita beef consumption is expected to reach 174 pounds (cwe) this year, compared with a recent high of 196 pounds in 1969 and a sizable increase over the depressed level of 134 pounds consumed per capita in 1972.

The 1974 estimate of 174 pounds is especially impressive in view of the continued *veda* (ban) on the sale of beef in hotels and restaurants during the first 15 days of each month.

The possibility of increased exports of canned and processed meats to the United States will become stronger if the EC ban on imported meat continues into 1975. The Argentine meat trade may find it desirable to expand its canned and processed meat markets in the United States in order to move its large stocks of beef products.

A closer look at **Brazil** reveals a country nearly as large as the United States with all the economic problems that usually stem from lack of an adequate transportation system. Vast new cattle areas lie well beyond the highways and railroads, thus impeding the flow of cattle.

Total Brazilian cattle numbers are estimated at 78-85 million head, but as a result of inadequate pasture management techniques and the underdeveloped transportation system, the slaughter rate is only about 12 percent annually compared with the U.S. rate of about 32 percent.

Of equal importance is the length of time required to raise an animal on grass to the 1,000-pound (live weight) level. Indications are that an average of 4 years is necessary to accomplish this goal in Brazil. A calving rate of about 50 percent and a dressing yield of about 48 percent also tend to lower the industry's productivity.

On the positive side, the cattle industry has the support of the Brazilian Government, and efforts are being made to correct the many problems besetting the beef production process.

In addition, vaccination programs to control aftosa (foot-and-mouth disease) are being increased dramatically. Pasture rotation and supplemental grazing programs are being introduced to shorten the fattening process for market-type animals.

With the opening of the new roads that are under construction, cattle marketing will become more orderly, and the country's reliance on imported beef to fill consumer needs will gradually diminish. It is likely, however, that the prospects of Brazil's again becoming a major beef exporting nation are many years in the future.

The situation in **Paraguay** parallels that of Brazil in some respects, but for dissimilar reasons. An excellent export market created a rise in domestic beef prices, pushing them beyond the reach of many consumers.

As a result of these higher prices, cattle numbers decreased for a time, but due to the imposition of mandatory quotas on the number of cattle slaughtered for export, the total cattle population is beginning to rise again. Current estimates of Paraguay's cattle population are 4.5-4.6 million head.

Per capita consumption of beef, which has trended downward in recent years because of high domestic beef prices, is beginning to rebound. Consumption is expected to reach 77 pounds (cwe) in 1974, up from 70 pounds in 1972.

The annual slaughter rate in Paraguay is approximately 12 percent of the total cattle population. This rate, in conjunction with a 50 percent calving rate and a 50 percent dressing yield, indicates problems in the areas of pasture management, supplemental grazing crops, and transportation. About 4 years are required to produce 1,000 pounds of beef (live weight).

Although some improvements are being made in the cattle industry, there is no indication that Paraguay will soon become a major exporter of beef.

Uruguay, on the other hand, apparently is moving steadily toward increasing importance as a major beef exporter to world markets. The country's cattle population has been increasing for several years, and currently is estimated at about 12 million head.

About 2 million head—about 17 percent of the total cattle herd—are expected to be slaughtered in the 12-month period that began November 1, 1974.

"Uruguay is moving steadily toward increasing importance as a major beef exporter to world markets."

With a dressing yield of 52 percent and a calving rate of 60 percent, prospects for future expansion would appear bright. However, for 1975, the closing of the EC market is exacerbated by Uruguay's lack of capacity to process and can its beef products, thus limiting marketing prospects. The current alternatives thus are either to consume the increased production internally or develop new markets for fresh, chilled, and frozen beef.

Uruguay's per capita consumption rate is expected to reach 154 pounds (cwe) this year—up from 108 pounds in 1972.

While production methods are improving in Uruguay, the time required to produce 1,000 pounds of beef (live weight) is in the area of 3.5 years.

The aftosa control program appears to be highly successful, and recurrences of the disease reportedly have been cut to a minimum.

Devaluation Impact Seen Mixed for Australian Farm Trade

THE RECENT 12 percent devaluation of the Australian dollar will have a mixed impact on the country's farm trade, ranging from an immediate boost in prices for scarce commodities such as grains and sugar to only slight help for the troubled livestock trade, according to Harlan J. Dirks, U.S. Agricultural Attaché, Canberra.

The devaluation—effective September 25, 1974—lowers the value of the Australian dollar from about US$1.49 to US$1.31, partially offsetting a series of revaluations over the past few years. These began in December 1972, when Australia revalued 7.05 percent against the U.S. dollar, followed by the de facto devaluation of the U.S. dollar and effective revaluation of the Australian dollar in February 1973; a 5 percent revaluation in September 1973; and then about a 5.25 percent upward float in subsequent months.

Although the 12 percent devaluation is far outweighed by the 33 percent gain from these revaluations, it still brings some improvement in Australia's competitive position, both in the United States and foreign markets. However, competition in many commodities, such as grains and livestock products, will be more affected by today's unusual market conditions than by the devaluation.

Furthermore, a rollback in Australian freight rates is necessary before many real gains can be achieved. This is because freight rates applicable to most Australian agricultural exports are quoted in U.S. dollars or pounds sterling and thus automatically rose when the Australian dollar was devalued. The Australian Government, Dirks says, will press for freight reductions similar to the increases that came about as a result of devalution.

Dirks also points out that besides immediately lowering the value of its dollar in terms of other currencies, Australia's devaluation severed the link with the U.S. dollar. This, he said, may be a forerunner to a complete float.

The new system introduced to determine the Australian exchange rate in the foreseeable future is a daily fixing, based on changes in the average of a "basket" of foreign currency values; these are weighted in accordance with their trading significance to Australia. To avoid second-guessing by traders and consequent speculation, the Treasury will not release details of the weights being applied, nor the exact composition of the currency "basket." However, it is clear that the currencies of the major trading partners, such as the United States, Japan, and the United Kingdom, are included.

Accordingly, the new system of exchange rate adjustment is a flexible one, and not a direct float subject to day-to-day movements in a free foreign exchange market. In fact, the weighted averaging system allows for only limited adjustments in value of the Australian dollar in terms of other currencies.

In the past, the direct tie to the U.S. dollar maintained Australian exports in relation to U.S. agricultural exports in an even competitive position. The decision to cut the link should improve the competitive position of products traded in competition with the United States, particularly items such as grain in the Japanese market.

However, Dirks indicates that the impact of the devaluation varies widely for the various commodities, with current world market conditions being the more important factor.

Returns from beef, for instance, will be affected more by the existence of import embargoes in the European Community (EC) and quota systems in Japan and Canada than by devaluation. In the still-open U.S. market, sales could improve somewhat. However, here too, the mounting surplus of beef is making for weak demand. This means that while volume of Australian shipments to this country could increase, actual export returns will probably show little improvement.

Similar problems abound in the wool market, where depressed demand has led to declining prices and heavy support purchases by the Australian Wool Corporation.

These continuing problems are expected to prevent any significant benefit to the Australian wool industry in the near future, although the devaluation could lead to a somewhat larger export volume, particularly to the EC and Eastern Europe.

Wool markets were closed on September 25 because of the changed currency situation. When sales resumed on September 26 there were no significant changes in values, but there was a slightly stronger demand from the EC and Eastern Europe.

Overall, the trade bought 49 percent of the offering and the Australian Wool Corporation 46 percent, compared with 50 percent each earlier in the week. Later in the season, when demand from Japan is expected to materialize, the impact of the devaluation could result in prices rising slightly above the present floor. However, with prices still low, the only significant effect is likely to be a reduction in the amount of wool that otherwise would have been held by the Australian Wool Corporation.

Despite increased export availability of Australian wheat from this year's harvest, world prices for wheat are not being affected by the devaluation. This is because of the current sellers' market for wheat and the Australian Wheat Board's immediate increase in its f.o.b. export prices by the full 12 percent of devaluation, plus a small margin to reflect world market factors.

OTHER GRAINS and sugar are in similar positions and will likewise receive the full benefit of the devaluation, less any increase in freight rates.

World market prices for dairy products are generally firm at present, and the decision of New Zealand to devalue by 9 percent at the same time as Australia is unlikely to have an immediate impact on prices. Consequently, Australian exports of dairy products should also gain the full benefit of the 12 percent devaluation, less increases in freight charges.

The markets for dried vine fruits and canned fruits are also strong, following small crops in some of the major producing countries during the last few years. Consequently, their export returns should rise by the full extent of the devaluation. Centralized marketing arrangements by the Dried Fruits Export Control Board and the Australian

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Factory-grown Feed Protein Is No Match for Soybean Meal

By PAUL J. FINDLEN
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IN THE SEARCH for new sources of food and feed, growing scientific attention is being focused on factory-produced, high-protein feed supplements. Spurred by soaring prices of soybean, fish, and other high-protein meals, research and development of these unconventional proteins have been stepped up in recent years. The likelihood is still remote, however, that manufactured proteins will displace the strong demand for farm-produced soybeans or other oilseeds—in the near future at least.

Looking ahead, however, the new protein sources could become a replacement for conventional proteins in times of crop shortfalls and high meal prices, if demand for high protein supplements in animal rations outpaces available supplies.

Apparently, commercial manufacture is considered potentially profitable, since a number of large companies—both in the United States and abroad—are investing heavily in research. Pilot manufacturing plants are already operating in five countries, and the product is being commercially marketed in the United Kingdom and France.

The process of producing feed protein in a factory bears some resemblence to growing field crops. Tiny, single-celled organisms such as yeast, fungi, or bacteria—roughly corresponding to seeds—reproduce rapidly when fed by air and a carbon source, or substrate. The "soil" for growing cells may consist of any of a number of widely available carbon sources, including petroleum derivatives, paper or sugar mill wastes, or even animal manure.

When growth is attained, the biomass is harvested and dried under conditions that inhibit further growth of the organisms. The resulting product is then packaged and marketed for feed use. The protein content of the products varies widely, however, and can range from 50 to 75 percent depending on the microorganism used and growth conditions.

Theoretically, manufactured proteins do have several advantages over the field-grown variety. Unlike field crops or fish catches, they are not subject to the vagaries of climate, weather conditions, or ocean currents. From an ecological standpoint, the factory process frequently utilizes industrial and animal wastes that would otherwise pose disposal problems. Land use for manufacturing facilities is well below that required for crop production.

More realistically, however, the cost of production is presently above that of farm-grown products, including soybean meal despite recent higher prices. Also, the recent jump in petroleum prices has materially increased these costs, since hydrocarbon products are most frequently used in the manufacturing process. Nutritionally, the product has a lower biological value than conventional feed supplements, and fortification is often required. Technical problems, such as cell harvesting, con-

SINGLE CELL PROTEIN PRODUCTION PLANTS

Country and company	Metric tons per year	Substrate	Micro-organism
In commercial operation:			
United Kingdom			
British Petroleum	20,000	Hydrocarbon	Yeast
Imperial Chemical	100,000	Hydrocarbon	Yeast
France			
British Petroleum	20,000	Hydrocarbon	Yeast
Taiwan			
Taiwan Sugar Co.	12,000	Sugar wastes	Yeast
Switzerland			
Attishalz	—	Pulp mill wastes	Yeast
USSR	150,000	Pulp mill wastes	Yeast
USSR	16,000	Hydrocarbon	Yeast
Proposed or under construction:			
Italy			
British Petroleum	100,000	Hydrocarbon	Yeast
Liquigas	100,000	Hydrocarbon	Yeast
Japan[1]	(300,000)	Hydrocarbon	Yeast
Dainippon	—	—	—
Kanegafuchi	—	—	—
Mitsubishi	—	—	—
Asahi	—	—	—
Kyowa Hakko Kogyo	—	—	—
Mitsui Toatsui	—	—	—
Romania			
Ministry of Chemical Industry and Dainippon Jasay	60,000	Hydrocarbon	Yeast
USSR	200,000	Hydrocarbon	Yeast
Finland			
Situ	10,000	Pulp wood wastes	Fungi
Pilot plant or new process:			
United Kingdom	—	Carbohydrate wastes	Fungi
Rank, Hovis, McDougal	—	Methanol	Bacteria
Imperial Chemical	—	Methane gas	Bacteria
Shell Oil Co.	—	Carobs	Fungi
Tate and Lyle	—	Molasses	Fungi
Lord Ronk Research Center	—	Whey	Yeast
Canada			
Silverwood	—	Ethanol	Yeast
United States	—	Cattle manure	Bacteria
American Oil Co.	—	Whey	Bacteria
General Electric	—	Cellulose wastes	Bacteria
Calor Agricultural Research			
Louisiana State University Foundation and Bechtel International			

[1] Suspended.

tinue to impede production.

Since these new manufactured feed supplements were developed, the term single-cell protein or SCP has come to be used in referring to them. The Protein Advisory Group of the Food and Agriculture Organization of the United Nations has approved the term, as applied to any microorganism—yeast, bacteria, or fungi—grown primarily for the production of protein.

Industrial methods of producing SCP vary widely, and range from simple cell incubation to elaborate systems with complete environmental and nutrient control. Each process varies, depending on the substrate used and the characteristics of the organisms grown.

A number of technical problems still plague manufacturers of SCP. A major difficulty, harvesting the cells, is critical to the whole concept of SCP production. If more efficient methods for product separation are not devised, SCP production may never be economical.

Because of high production costs, SCP cannot usually be sold competitively with other high protein feeds, at least with the soybean meal used extensively in swine and poultry feeds. For SCP producers who use hydrocarbons, the highest cost is the substrate—derived from petroleum—which in the past has amounted to 63 percent of costs at the plant, without allowance for return on investment. And this was prior to the recent oil price boost.

Nevertheless, SCP has thus far been marketed in the United Kingdom at a price competitive with fishmeal. It is being used in rations for pigs, poultry, and calves, and the response reportedly has been highly satisfactory.

Research has shown that SCP is technically feasible as a source of feed protein, and it can partially replace components now used in high protein feeds. Nutritionally, SCP yeasts grown on hydrocarbons are significantly lower in total sulfur containing amino acids than soybean meal and somewhat lower than fishmeal. Consequently, poultry and swine rations that include SCP require fortification with selected synthetic amino acids.

There is also a great variation in the digestibility of SCP products. The products must be treated to inhibit cell growth, or digestibility is particularly poor.

In mixed feed rations, up to 7 percent SCP seems to be acceptable for

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India's Cotton Output Static, Tradesmen Debate Export Level

INDIA'S COTTON crop (including 250,000 bales estimated noncommercial output) has averaged about 5.6 million bales in the past 3 years (1971-73), with the important short-staple varieties declining in volume and as a percentage of total output. This trend is expected to continue in 1974-75 and has given rise to a disagreement between Indian millowners and exporters over the Government's export level for Bengal deshi, an important short-staple variety. And a recent cut in the export target may have made the debate even hotter.

Short-staple output fell from 10.3 percent of a 5.35-million-bale crop in 1972-73 to about 9.9 percent of the 5.5 million bales produced in 1973-74. Short-staple output is expected to decline to 9 percent for the 1974-75 crop, currently estimated at 5.15 million bales. (All bales are 480 lb. net. India's cotton marketing year is August 1-July 31.)

Based on an earlier 5.4-million-bale estimate, the Ministry of Commerce had fixed the 1974-75 export limit for Bengal deshi cotton in early August at about 187,000 bales, only to reduce it to 124,000 bales in September, although the estimate for the total cotton crop had been boosted to about 5.4 million bales. The 124,000-bale figure, although tentative and subject to later review, is lower than that fixed in March 1974 for the 1973-74 season, when the percentage of the short-staple crop was higher.

The size of the 1974-75 crop—which could vary by several hundred thousand bales in either direction before the final harvest—was restricted by the late arrival of the monsoon, a cut in acreage, inadequate rainfall in many cotton-producing states, and a low level of input utilization. However, beneficial late rains and favorable weather conditions in most cotton producing areas during October have improved production prospects.

The initial 187,000-bale ceiling for Bengal deshi cotton was sharply criticized by exporters—who wanted no ceiling—and by the textile industry—which wanted all such cotton exports stopped and a large quantity of cotton imported to meet domestic mill requirements. The 124,000-bale figure represents the Government's effort to strike a compromise between the two stands. Reportedly, the Government may also approach the Soviet Union for a barter deal for Soviet cotton.

The East India Cotton Association, an organization of exporters opposing any restriction on exports of Bengal deshi cotton, had pointed out that India's consumption of this fiber between August 1973 and January 1974 had been 101,000 bales, and in the 2 succeeding months it had been almost 15,000 and 13,000 bales, respectively. Striking a monthly average of around 18,000 bales, the Association stated its belief that consumption of Bengal deshi in 1974-75 may not go beyond 223,000 bales.

The Association also estimated 1974-75 output from Punjab, Haryana, and Upper Rajasthan at around 36,000 bales. Another 40,000 bales were expected from Lower Rajasthan and Uttar Pradesh for a total Bengal deshi crop of roughly 360,000 bales. This, the Association said, should take care of domestic consumption needs and at the same time permit exports at the 187,000-bale level.

ON THE OTHER HAND, the Indian Cotton Mills Federation wanted the Commerce Ministry to limit the export of Bengal deshi cotton to just 82,700 bales. The Federation argued that consumption of Bengal deshi by Indian textile mills had expanded considerably in recent years and was expected to rise further in 1975. In addition to the tight cotton supply position that would result from this increased usage, the Federation believes the 1974-75 Bengal deshi crop would be around 350,000 bales, not the higher Association figure.

The textile industry has reportedly come out in favor of a renewal of the cotton conversion arrangement with the Soviet Union under which Soviet cotton was converted to thread in Indian mills. The committee of the Indian Cotton Mills Federation, which studied the proposal in recent months, announced

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Ecuador's 1973 Farm Output Low, Expected To Rebound This Year

By C. MILTON ANDERSON
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ECUADOREAN AGRICULTURAL output, at the lowest level in the Western Hemisphere in 1973, will probably show some improvement during 1974, particularly in the production of food crops. Bad weather, the adverse impact of the Government's agrarian reform legislation, and the internal reorganization of the Ministry of Agriculture combined to hold 1973 farm production at its low level.

However, credit liberalization measures, started in late 1972 and carried forward in 1973, are making their impact felt in the current year, providing the push to reverse the production downtrend of recent years.

For the first 8 months of 1973, internal credit given by Ecuador's banking system amounted to $442.6 million, compared with $382.4 million for the same period in 1972. A large share of this credit was extended to the agricultural sector. For all of 1972, $581.7 million was loaned by Ecuadorean banks, of which $68.2 million was loaned for agricultural purposes.

The Government's agrarian reform law, passed toward the end of 1973, was in part intended to give larger segments of the farm population more meaningful roles in the economy.

Many advocates of the law believed it would resolve the land tenure problems left over from a similar 1964 law, but most property owners thought it would create new ones.

Large farm owners—suspicious of the law's effects—withheld investment in the commercial sector of agriculture, although it was and is one of the Government's stated aims to expand food output.

Weather in 1973 was a case of too much or too little.

Excessive rainfall and flooding resulted in extensive crop losses in the coastal Provinces of Los Ríos, El Oro, Bolívar, and Guayas. In contrast, drought and frosts caused considerable damage in Pichincha, Cotopaxi, and Chimborazo Provinces of the Sierras. Farmers in several Provinces asked the Government to declare a state of emergency for their areas. The Government responded by offering increased assistance in the form of credit, fertilizers, seeds, and technical assistance.

Bad weather caused production of centrifugal sugar—a major export commodity—to decline from 275,000 short tons during the 1972-73 season to 270,000 tons for the 1973-74 season. Clouds and overcast skies slowed cane growth at San Carlos, one of the most important coastal sugar mills. Lower per acre yield of cane, as well as smaller outturn of sugar, caused the production drop.

For the 1974-75 season, cane acreage for centrifugal sugar has been expanded by about 2,500 acres, bringing total planted area to 88,500 acres, of which about 81,500 acres will be harvested. The area increase is expected to bring 1974-75 sugar outturn to 295,000 short tons, 25,000 tons greater than the previous season's.

Sugar exports to the United States were 91,085 short tons during calendar 1972 and 90,107 tons in 1973, sufficient to meet assigned U.S. quotas for the 2 years. But mills were left virtually without stocks as they entered the 1974-75 season.

All of the 25,000-ton production increase in 1974-75 will be needed to supply increased internal demands, making it virtually impossible for Ecuador to meet its U.S. quota during 1974. Ecuador will probably be able to export only 70,000-85,000 tons against a preseason U.S. quota slightly in excess of 100,000 tons. The 1973-74 domestic sugar shortage was so pronounced that in January the Government of Ecuador banned sugar exports until July of the 1974-75 season.

In response to the offer of further tax reductions—or, in the case of the smaller mills, granting a greater share in the export quotas—six of the coun-

Ecuadorean bananas being carried aboard ship for movement to an overseas market. During 1973, Ecuador retained its status as the world's largest banana exporter.

Above, an Ecuadorean farmer harvesting wheat in an Andean field. Ecuador's 1974 wheat production is expected to be about 11,000 tons larger than the 1973 crop of 44,000 tons. Left, an Indian woman breaks up the soil in a mountain field. The Government is establishing machinery pools throughout the country that might make easier the labors of farmers like this one.

try's seven sugar mills have submitted plans to expand processing capacities over the next few years. Ecuador would like to have at least one new mill with an annual output of 50,000 tons, but the necessary incentives to encourage construction of a mill this size have not yet been offered by the Government.

Ecuador's 1973-74 outturn of coffee —another export commodity—fell off 21 percent from the 1.1 million bags (132 lb. each) produced in 1972-73 to about 870,000 bags. An additional 15,400 bags were also exported as soluble coffee.

In the 1974-75 season, coffee production is expected to climb to 1.2 million bags, second only to the record 1.3 million bags harvested in 1970-71. Exports in 1974-75 are also expected to rise to 1,125,000 bags, a figure that could be higher or lower depending on the volume of coffee entering Ecuador from Peru. The soluble extract from about 18,500 bags of green coffee is also expected to be exported in 1974-75.

In addition, producer prices for the 1973-74 crop made growers more willing to take measurably better care of their plantations.

There is a wide difference of opinion about the size of Ecuador's 1973-74 cocoa harvest, with totals ranging from the normal—about 55,000 metric tons —to a higher than average crop of 70,000 metric tons. An outturn of about 62,500 tons is likely.

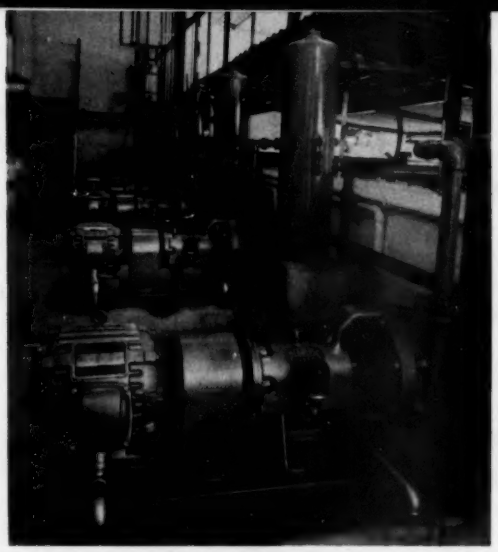
Cocoa production in 1972-73 was 43,000 metric tons, a 15,000 ton drop from the previous season's 58,000 tons.

Above normal rainfall the preceding year, followed by below normal rain prior to and during the harvest, are the factors which are expected to lead to an above normal harvest of high-quality cocoa beans.

Last year's high prices have had a positive effect on the industry. Many plantation owners had planned to remove older trees from their plantings, but higher prices caused owners to postpone the trees' removal.

Exports of cocoa beans in 1973-74 are expected to reach 51,000 tons, 22,000 tons more than those of the previous season, but less than the 57,000 tons exported in 1971-72.

The United States is Ecuador's largest customer for cocoa beans. It generally buys class 6 quality cocoa based on an eight-class scale. Thus export values for U.S. sales average less per



Right, an Ecuadorean plant equipped with U.S. solvent pumps for pyrethrum extraction. Ecuador is normally the world's third largest pyrethrum producer and a major exporter. Below, cutting sugarcane in an Andean field. This season's sugar output is expected to reach about 295,000 short tons.

ton than sales to countries buying a higher quality product.

Exports of Ecuadorean cocoa beans to the United States during calendar 1973 were valued at $6.6 million, compared with $6.8 million for 1972 and $8.6 million for 1971. During the latter year, cocoa bean exports accounted for 84.8 percent of Ecuador's combined cocoa bean and product value, compared with 78.8 percent in 1972 and 74.4 percent in 1973. Ecuador's total export value for cocoa products for 1973 amounted to $9.2 million, and for beans, $26.7 million.

During 1973, Ecuador retained its status as the world's largest exporter of bananas. Surplus production of low-quality bananas seems to be diminishing as one of Ecuador's major agricultural problems. However, Government officials believe that large land areas now devoted to bananas are marginal and should be planted to other crops. At the same time, they think the remaining acreage should be improved to stimulate expanded banana export sales to usual, as well as untapped, markets.

Although highly tentative, Ministry of Agriculture officials indicate banana output in 1973 again exceeded 3 million tons. Other sources believe the actual level was closer to 2 million tons.

Banana exports accounted for 20.5 percent of all export permits issued by the Ecuadorean Government in 1973, compared with 36.1 percent in 1972 and 46.6 percent in 1971. In terms of tonnage, exports in 1973 declined by 90,000 metric tons from the 1.37-million-metric-ton level set in 1972. Last year's sales to Japan, Ecuador's largest market in 1972, decreased by 224,183 tons to 237,764 tons, while sales to the United States increased by 90,376 tons to 399,102 tons.

Ecuador is normally the world's third largest producer and a major exporter of pyrethrum, following Kenya and Tanzania. Production of dry pyrethrum flowers has shown a general downtrend since 1968 when it was 1,900 metric tons. Dropping to 640 tons in 1972, output recovered to 680 tons in 1973, but is again expected to fall to 550 tons in 1974..

The falloff in production was due to frosts toward the end of 1973 which severely damaged about 20 percent of Ecuador's pyrethrum acreage. Since then rainfall has been relatively light and it is still not known how well the affected areas have recovered.

In order to offset lower labor costs in Kenya and Tanzania, Ecuador is trying to develop new varieties of pyrethrum yielding a higher percentage of extract than the current 1.3 percent.

Although not for export, Ecuador's current grain production is expected to rise. At 359,000 tons, 1973 grain output (excluding rice) was about 22,000 tons below that of 1972.

Heavy rainfall in coastal areas caused flooding in some grain fields and erosion in hard cornfields, while inadequate then excessive rainfall followed by frosts reduced highland or Sierra wheat, barley, and soft (food) corn harvests.

Rice production increased by 23,000 tons to 132,500 tons.

Ecuador's 1974 wheat production is expected to be about 55,000 tons, up from 44,000 the previous year.

For 1974-75, wheat imports from the United States are projected at about 155,000 tons, 8,000 tons above those of 1973-74.

Total 1973 coarse grain production (corn, barley, and oats) was 315,000 metric tons, compared with 331,000 tons in 1972. The 1973 figure includes 145,000 tons of soft corn for food uses. Virtually all the barley is produced for food and for malting by the country's breweries. Thus production of grains for livestock was about 60,000 tons in 1973.

A preliminary estimate for coarse grain production in 1974 is 350,000 metric tons. A harvest of 180,000 tons of soft corn and 75,000 tons of hard corn (for feeding) are expected. The 1974 barley harvest is forecast at 95,000 tons, while oat production is set at 500 metric tons.

Up to 12,000 tons of Ecuador's 15,000-ton oat requirement may be purchased in the United States if U.S. prices are relatively more attractive than those from other sources.

Demand Spurs U.S. Exports of Ginseng to Asia

By GORDON E. PATTY
Foreign Commodity Analysis,
Sugar and Tropical Products
Foreign Agricultural Service

CONSUMER demand for ginseng—the herb prized in the Orient as a health-giving restorative and stimulant but officially regarded in the United States only as a demulcent—is rising steadily.

U.S. production and exports (which are approximately equal) have expanded 28 percent in volume in the past 10 years, and value has jumped by nearly 200 percent.

U.S. ginseng exports increased from a yearly average of 151,000 pounds in 1960-62 to 193,000 pounds in 1971-73. On a value basis, exports have advanced sharply from $2.7 million to $7.9 million annually in the same periods.

Ginseng valued at $8.8 million was the fourth most important farm product exported by the United States to Hong Kong in 1973. The leading U.S. farm commodities shipped to Hong Kong in 1973 and their export values were cotton, $36.7 million; rice, $27.9 million; and oranges and tangerines, $16.2 million. Ginseng accounted for 6 percent of the total $147.9 million value of all U.S. agricultural exports to Hong Kong in calendar 1973.

Practically all of the U.S. ginseng crop is exported. There are no official data on U.S. ginseng production, but USDA's Agricultural Research Service estimates that 95 percent of the U.S. crop enters export markets.

American ginseng has been exported to the Orient since Colonial days. In North America, the first discovery of the herb was in Canada, by a French priest who had been a missionary in China and recognized the plant. French trappers and Indians then took up the search, and were followed by pioneer families seeking ways to supplement their meager incomes.

Gradually, the plant was found throughout the Eastern hilly woodlands and as far west as the Ozark Mountains. The great U.S. eastern forests had been mostly cut by the late nineteenth century, bringing a scarcity of wild ginseng and leading to attempts to grow it under cultivation. It was found, however, that ginseng would flourish under cultivated conditions only if plants were shaded and if soils were rich and well drained.

By the turn of the century, many growers were trying to cultivate ginseng—in the woods under natural conditions and under lath sheds in partially controlled environment. But overplanting and excess supplies led to plant disease and a resulting decline in production and interest that lasted many years.

Ginseng cultivation gradually made a comeback, and the 1954 U.S. Census of Agriculture reported a harvest of ginseng in that year of 88,600 pounds—the latest year for which production data are available. The current trend is toward increased output, higher yields (2 tons per acre in 1954), and fewer producers.

It is estimated that over half of U.S. ginseng production at the present time is from cultivated plantings. The geographic center of cultivation is in north central Wisconsin, where growing conditions are optimal. One large Wisconsin ginseng farm has been in continuous production since the early 1900's.

Almost all U.S. ginseng exports are in dried root form. Little processing is done in the United States. U.S. imports, on the other hand, are largely in the form of processed products.

An estimated $120,000 worth of processed ginseng was imported in 1973, compared with only $36,000

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Ginseng under cultivation, above, in Korea. Beds are covered with loosely woven rice staw matting to simulate shaded growing conditions found in forests. In the United States, shade is usually provided by lath-frame structures such as the one at right.

Japan's Farm Merger Program In Industrial-Urban Squeeze

By ALAN K. HEMPHILL and BRYANT H. WADSWORTH
Assistant U.S. Agricultural Attaches
Tokyo

JAPAN'S FARMERS are caught in the middle as the Government seeks simultaneously to increase the country's agricultural production, develop more recreational areas, boost the number of housing units, and build more factories, all with little hope of increasing the land available for all these purposes.

Per acre yields of many Japanese crops are among the highest in the world, but even greater ones are required to help feed the islands' growing population. Japan hopes to achieve higher agricultural yields and production by increased efficiency—principally by operating farms large enough to use more productive machinery to plant, cultivate, and harvest. At present this objective is not feasible because most of Japan's farms are small—the average size being just 2.8 acres in 1973.

The Government has initiated various programs to help farmers boost their incomes by paying them high support prices for some commodities, limiting imports of others, and providing protection for still a third group through high tariffs. In addition, the Government and certain agricultural cooperatives have aided farmers by making available special loans, various types of insurance, and other forms of assistance. But the Government apparently believes one of the best ways to boost farmer income and productivity is via the consolidation route.

Until recently, Japanese law prohibited ownership by a single family of more land than could be cultivated by members of the household. The law, dating back to the land-reform activities immediately following the Second World War, was changed in 1970. Land prices in the meantime have skyrocketed to the point where it is virtually impossible for individual farm families to increase their holdings by buying neighboring plots. At the same time, the rate at which land values are increasing—by nearly thirtyfold since 1955—so exceeds the rate of return from virtually any other type of investment, farmland owners tend to hang on to their property.

Until 1945, when the Agricultural Land Adjustment Law was passed, and the following year's enactment of the Owner-Farmer Establishment Special Measure Law, Japanese agriculture was based on absentee land ownership. The 1945 ordinance regulated rents, provided for payment in cash instead of kind, and reinforced cultivation rights of tenants. The 1946 law controlled farmland ownership, stressing the premise that a farmer should be a landowner and farmland owners should be farmers.

With few exceptions these regulations have limited farm size to about 7.5 acres (in Hokkaido, the northern island, this was set at nearly 30 acres) because this was considered to be the optimum size for a family to operate without hired labor.

WHILE MAINTAINING minor leasing rights for farmers, the measures freed approximately one-third of Japan's farmland—4.9 million acres. The land was purchased by the Government for a fixed price from 1.8 million landlords and owners of large tracts and resold to approximately 4.3 million farm families who made up almost 70 percent of the farm family total.

To buttress these earlier reforms, an Agricultural Land Law was passed in 1950, which generally limited land transfers and leases. Other measures permitted the Government to buy uncultivated and wastelands for development and resale to farmers. Designed to increase agricultural production in a farmer-owner system, the regulations tended to preclude future growth in farm size.

Inflation which immediately followed World War II and the rapid industrial development of the 1950's and 1960's also tended to halt farm-size growth. These two factors boosted incomes of

Top, fogging rice paddy with mist generated by a back-pack sprayer. Center, rice being harvested in Ishikari District. Bottom, a small cultivator being used in a rice field. Many farmers can use only small equipment because of the limited size of their fields. In 1973, the average Japanese farm was just 2.8 acres. Japan wants to unite these small units into larger farms.

most city dwellers while farmers lagged behind.

However, because land prices increased rapidly and steadily, farmers were—and still are—in one of the safest and perhaps most lucrative businesses. Land values have more than quadrupled since 1965. An acre of farmland sold for farm use brought US$3,891 in 1965 but $18,160 in 1972. Farmland sold for housing rose from $13,833 to $59,940 per acre, while farmland sold for industrial use rose from $15,182 to $65,067 per acre during the same time period.

Since the law would not permit farmers to rent their land and move to the city to take advantage of the opportunities there—thus becoming absentee landlords—and because few of them wanted to sell their land, they became part-time farmers. This involved commuting to work in nearby cities, or leaving part of the family to work the farm while the balance moved to one of the larger cities for part of the year. Another labor leak occurred when young people graduated from junior or senior high school and moved to the city for further schooling or to take jobs. Thus, Japanese agriculture has been characterized as being the function of the old or of women.

In the 1960's, alterations were made in agricultural legislation to modify this pattern, but with little apparent effect. In 1970, the Agricultural Land Law was also amended to permit unlimited land tenure by full-time farmers. A part-time farmer could now lease his land to a full-time operator without being forced to sell.

Beginning in April 1972, the Ministry of Agriculture and Forestry (MAF) began to implement an agricultural block program—called danchi in Japanese—in an effort to encourage development of more large-sized farms. The objective of this program is to establish within 5 years 10,000 farming units totaling some 1.3 million acres.

Farmers in a given area are encouraged to organize a Danchi (land-holding) Corporation, lease their land to the firm, and hire an able farmer to act as manager for the firm. Certain subsidies and incentive payments are made to the Danchi by the Government, helping it to overcome some of its operating expenses.

DANCHI MEMBERS are now free to leave their farms without jeopardizing their rights to the land. Contracts giving the Danchi operating authority are usually short-term with the farmers having the right to renew or, should they decide to sell, terminate the arrangement at its expiration. On March 31, 1974, there were 1,487 Danchi in Japan, more than double the 605 on March 1, 1973.

The Japanese Government has also initiated a program by which farm cooperatives can take over operation of a farmer's land on a commission basis. This permits the cooperatives to consolidate many small farms into economically viable units, while title to the land remains with the farmers involved.

But even as these Government programs are promoting establishment of larger farm units, there are other seemingly working against consolidation. Japanese land tax laws were revised in April 1973 so that farmland within the city limits of Tokyo, Osaka, and Nagoya—with some other urban areas to be added in Japan's 1974 fiscal year (April 1, 1973-March 31, 1974)—will

JAPAN: PRICES PAID FOR FARMLAND BOUGHT FOR FARMING, HOUSING, AND INDUSTRIAL USES
[In U.S. dollars per acre]

Year	Selling price for land for		
	Farming	Housing	Industrial use
1965[1]	3,891	13,833	15,182
1966[1]	4,296	16,194	18,556
1967[1]	5,522	20,243	21,930
1968[1]	6,894	24,292	26,316
1969[1]	8,761	30,702	35,762
1970[1]	11,494	38,462	44,197
1971[2]	14,849	47,511	51,798
1972[3]	18,160	59,940	65,067

[1] US$1=Y360. [2] US$1=Y340. [3] US$1=Y308. Japanese National Chamber of Agriculture.

gradually become subject to heavier tax rates during the 4-year period from JFY 1973 to JFY 1977. At the end of this period, farmland in these areas will be taxed at the same rate as residential land, hopefully stabilizing residential land prices in these cities by increasing the amount available for building. The new tax law also discourages farmers from holding land inside the city limits whether they farm it or consider it a speculative investment.

Some farmers have sold their land for housing and other construction purposes, others for parking lots, fishing ponds, or golf driving ranges. Still other farmers are building homes or apartments and becoming realtors.

Using various tax breaks, the Government is encouraging new industrial firms to locate their plants in less populated rural areas rather than in congested areas in the Tokyo, Nagoya, and Osaka regions. One effect of this drive has been to stimulate a sharp jump in land costs in the countryside, but provide an improvement in job opportunities in the rural areas.

While some new areas can and are being opened to farming, nearly all available cropland for this purpose is already in use. Over the past 10 years, although cultivated area increased 10 percent in Hokkaido, it decreased 7 percent nationwide to about 14 million acres.

The average size of Japanese farms is going to increase slowly as the consolidation program gathers headway.

Hand harvesting barley with a sickle. The Japanese Government's aim is to combine small farms to make possible use of more farm machinery.

However, except in a few special cases, most extra-large farms will be developed in areas farthest from large cities and then not in any great numbers. And as farm size grows, farm efficiency and incomes will also probably rise.

As farm sizes increase, more farm people will seek employment in the nonfarm sector. The very low unemployment rate in Japan will facilitate this influx of farm workers into the industrial labor market. But the land consolidation process will not be completed overnight. Japanese land is too expensive and the various methods of consolidation are not yet understood or accepted by enough people to cause a major farm revolution in Japan this decade.

JAPANESE DANCHI PROGRAM: NUMBER OF UNITS, PARTICIPATING HOUSEHOLDS, TOTAL AREA, AND FARM SIZE BEFORE AND AFTER CONSOLIDATION

Type	Danchi units	Participating farm households	Total area involved	Average size	
				Before consolidation	After consolidation
	Number	*Number*	*Acres*	*Acres*	*Acres*
Livestock feed	46	236	694	2.9	15.1
Vegetables only	139	662	452	0.7	3.3
Fruit only	14	72	99	1.4	7.1
Mixed upland crops	303	636	1,370	2.2	4.5
Silk	51	578	598	1.0	11.7
Total	[1] 556	2,184	3,213	—	—
Country average	—	—	—	1.5	5.8
	Number	*Number*	*Head*	*Head*	*Head*
Livestock	[2] 49	169	[2] 1,022	6.0	20.9
Total	[3] 605	[3] 2,353	—	—	—

[1] Includes 3 units not given in listing. [2] Includes 38 units producing beef cattle (759 head) and 11 dairy units (263 head).
[3] As of March 31, 1973.

INDIA'S COTTON EXPORT LEVEL DEBATED

Continued from page 7

that "there is nothing basically wrong in entering conversion deals of the type" similar to that entered into in 1971-72. In fact, the committee reportedly has come to the conclusion that "such deals might actually be a good proposition as a hedge against a low cotton crop or rising prices in India."

MORE RECENTLY, however, it has been reported that the Government is contemplating a new type of deal with the Soviet Union. Under the proposed arrangement, India would barter its superior long-staple cotton for the Soviet Union's medium- and short-staple fibers. The Government's rationale appears to be that output of India's long- and extra-long-staple cottons is increasing rapidly, while that of short- and medium-staple cottons is not mounting at the desired rate.

Total 1974-75 cotton consumption (including an estimated 250,000 bales utilized by villagers but not included in commercial-use data) is forecast at 6 million bales. This compares with the estimated consumption of 5.9 million bales in 1973-74 and 5.7 million bales in 1972-73.

Actual mill-use statistics for the 1973-74 season are available only for the first 8 months of the marketing year —August through March. During this period, mills consumed 3.75 million bales against 3.61 million bales during the same months in 1972-73. Mill consumption in 1973-74 was slowed by a 6-week textile worker strike in Bombay that started December 30, 1973. Usage dropped to 423,000 bales in January and 371,000 bales in February, from 505,000 bales in November and 511,000 bales in December. It is estimated that the loss was made up during the remaining months of 1973-74.

In order to satisfy domestic mills' requirements in 1974-75, India may have to import between 400,000 and 443,500 bales of cotton. Since most of India's mills need medium-staple cotton in the range 15/16 to 1-1/16 inches, there is a possibility that India might import some of its cotton requirements from the United States.

Imports during 1973-74 were at the lowest level in years. At the beginning of the 1973-74 season, an import quota of 82,700 bales was announced for Egyptian cotton, with a 20 percent share for the private trade and 80 precent for the Government's Cotton Corporation of India. It was subsequently announced, however, that the Indo-Egyptian agreement provided for only 35,600 bales. There was no fresh allocation of cotton imports to Sudan or any other country. High prices of Sudanese cotton and rising production of Indian long- and extra-long-staple cotton influenced the Government to restrict imports in 1973-74. The petroleum crisis also necessitated the conservation of foreign exchange to the maximum extent possible.

It is estimated that cotton imports (actual arrivals) in 1973-74 totaled about 124,000 bales, although minor discrepencies in figures exist depending on the source. Official import data are available only for the 7-month period August 1973 through February 1974, during which total imports came to 116,250 bales. Same period official data for 1972-73 are not available since they were compiled at the time only on a quarterly basis. Those available from August 1972 through March 1973 totaled 290,000 bales. During August 1973 through February 1974, the major suppliers—according to official statistics—included, in order of importance, Egypt (46 percent), followed by Sudan (23 percent), Tanzania (16 percent), and the Soviet Union (14 percent).

According to private export data (official data are available only for the first 7 months of the marketing year) about 198,500 bales of Indian cotton were passed for shipment during 1973-74. Ninety percent of this total went to Japan. Fifteen other countries took the remaining 10 percent.

Actual cotton exports during the first 7 months of 1973-74 have been officially stated by the Government at 189,520 bales, and compare with full-year 1972-73 shipments of 157,980 bales. Exports to Japan, the major buyer during the 7-month period, totaled around 158,000 bales and represented 80 percent of India's cotton exports during that period. Other countries that purchased over 5,000 bales, in order of importance, included Bulgaria with 8,000 bales and Bangladesh and the United States with nearly 7,000 each. The 1973-74 ceiling kept exports during the remainder of the year to an insignificant level.

India's raw cotton exports amount to only 4 percent of its annual production. Most of India's cotton exports are in the form of textiles.

Total textile exports amounted to the equivalent of $145.7 million in 1971, $200 million in 1972, and $301.7 million in 1973. The 1974 export level is likely to exceed the previous record, as foreign sales of cotton textiles during the 7-month period ending July 1974 were placed at $192.1 million, compared with $128.5 million exported during the same period of 1973.

The Indian textile industry has seen its exports rise in the past 3 years, while producers in Hong Kong, Taiwan, and South Korea—India's traditional competitors—have reportedly suffered an export setback due to rising cotton prices and inadequate cotton availability. India, which meets most of its cotton requirements from its own output, has been able to maintain production at a relatively high level and services its export obligations reasonably well.

INDIAN COTTON prices were high during all of the 1973-74 season. A steady uptrend began in August 1973 and continued to rise through July 1974, setting new highs at the end of the season. Attributed mainly to a scramble for cotton by mills in the face of a declining 1973-74 crop estimate, the situation was further exacerbated by imposition of a 40 percent duty in May 1973, leading to a sharp reduction in imports in 1973-74, that in turn placed additional pressure on domestic stocks. Additionally, because of poor 1974-75 crop prospects and the Government's delay in announcing its import intentions, cotton prices continued their upward surge into the 1974-75 season.

Prices moved in a steady uptrend through the middle of September 1974, but fell back during the second half of the month and more dramatically in October. This recent development is attributable to the slackened foreign and domestic demand for Indian textiles, a slowdown in anticipated exports, anticipation of cotton imports, and an improvement in the cotton production outlook. —Based on a report from

OLDRICH FEJFAR
U.S. Agricultural Officer, Bombay

Philippines May Produce Soybeans

The Philippine Bureau of Plant Industry (BPI) has reported that commercial production of soybeans in the Philippines now is possible because of new planting techniques and improved varieties of soybeans. The factors that will favor soybean production were reported to be: Use of a new strain of seed inoculate that enhances nitrogen-fixing to an extent greater than the inoculates used previously; introduction of three new soybean varieties, including one from the United States; and improved fertilization practices.

BPI says production costs can be held to about US$6.10 per bushel, while the market price for locally produced soybeans is as high as US$11.40 and the Government's minimum price is set at US$9.17 per bushel.

Australian Devaluation

Continued from page 5

Canned Fruits Board will permit these two organizations to maintain their overseas selling prices in terms of the foreign currency quoted; thus, receipts in terms of Australian dollars should rise accordingly.

Less fortunate is the deciduous fruit industry, which has been squeezed both by weakened world demand and rising freight costs. Moreover, freight rates, which constitute nearly 60 percent of the landed value of fresh apples and pears, could rise by the full 12 percent of the devaluation if no compensation is made. This would mean further erosion of product value in overseas markets, making exports even more unattractive than they already are.

Dirks also foresees a further increase in fertilizer prices as a result of devaluation. The current price agreement with the British Phosphate Commission is to expire at the end of the year, and there is little doubt that the Commission will up prices for phosphate rock. However the increase may not be by the entire 12 percent. In addition, nitrogen fertilizers, particularly those imported from Japan and elsewhere, will show sharp price gains.

The situation for farm fuel is still unclear, according to Dirks. However, since Australia supplies about 70 percent of its own requirements, the higher cost of imported fuel is not likely to seriously affect farm input costs.

Demand Spurs U.S. Exports of Ginseng to Asia

Continued from page 11

worth in 1972, to meet the growing demand for ginseng in health food stores as well as in stores selling Chinese goods—the traditional type of retail outlet for ginseng products.

Much of the 1973 imports came from South Korea, but the People's Republic of China and the Soviet Union also were represented. Hong Kong reportedly exported $26,000 worth of ginseng products to the United States during the first 6 months of 1974.

Prices received for U.S. ginseng in the export market continue to increase. In 1960, ginseng brought $18.28 per pound, based on unit values reported by the U.S. Bureau of the Census. By 1973, the price had risen to $43.80, and in August 1974 to $58.63.

The major competitors of U.S. ginseng in the Hong Kong market are South Korea and Japan. South Korea is a major producer, while Japan is only a transshipper and processor.

Japan imports mostly white (raw) ginseng from South Korea and other countries. Much of it is steamed or boiled, and when dried becomes red ginseng. This product is exported to Hong Kong, and brings a much higher price than white ginseng.

Hong Kong, a growing market in ginseng trade, increased its U.S. ginseng imports by 46 percent between 1970 and 1973 and its total ginseng imports by 56 percent in the same period. Singapore and Taiwan handle smaller quantities, and may become more important ginseng trading centers in the future.

U.S. exports of ginseng have been increasing by about 2 percent annually since 1960. It is expected that this rate will continue, and may increase.

For the U.S. industry to take full advantage of this growth, it will be necessary for the industry to hold down its costs and provide for adequate supplies by increasing areas under cultivation, thereby affording the U.S. industry continuing export opportunities.

(A detailed study of the subject is to be presented in "U.S. Ginseng in the Far East Market," now in preparation by the Foreign Agricultural Service, USDA, Washington, D.C. 20250.)

HONG KONG: GINSENG IMPORTS, 1970 AND 1973
[In 1,000 lb]

Country	1970	1973
Japan	168	242
United States	140	204
South Korea	62	157
Other	71	86
TOTAL	441	689

Factory-grown Feed Protein

Continued from page 7

feeding calves below 6 weeks of age as a milk replacement. The proportion can then be increased to 10 percent. For pigs and poultry, up to 20 percent SCP can be used in rations.

The use of protein substitutes in animal feeds is not new. Urea, a nitrogen compound, is widely used in feeding cattle and sheep. Utilization of urea is estimated at over 800,000 tons a year in the United States, replacing 5-5.5 million tons of soybean meal equivalent in dairy, beef, and sheep feeds.

But urea is used primarily as a nitrogen fertilizer, which is growing in importance around the world, so that high fertilizer demand and prices currently make the product less attractive as a feed ingredient in rations. Moreover, expanding use of urea in feeds would necessitate a parallel rise in the production of forages and feedgrains.

Newer high-protein varieties of feedgrains—corn and sorghum—could also potentially diminish the need for protein meal in rations. Recent nutritional research indicates that blends of synthetic amino acids, added to high-lysine corn, eliminate the need for adding protein meal to hog rations, except during the starter feed period.

But production capacity of these synthetic amino acids is still quite limited. Moreover, the yields of traditional varieties of corn are still better than the new high-protein strains.

Stepped-up plant breeding research to adapt high-lysine corn to local conditions promises to increase the supply of plant protein needed in swine and poultry feeds. New breakthroughs in improving the protein content of grain sorghum, barley, and oats are a potential source of better quality protein in these feedstuffs. Also, much research is underway to increase soybean yields.

CROPS AND MARKETS

GRAINS, FEEDS, PULSES, AND SEEDS

USSR Grain Harvest Expected Below Plan

According to a Soviet official, the 1974 USSR grain harvest will be second only to the record 1973 production of 222.5 million metric tons. Although the official did not give exact production figures, it is believed that 1974 output will fall below 205.6 million tons, the plan target, because no claim for fulfillment of the plan has been made to date.

Rotterdam Grain Prices and Levies

Current offer prices for imported grain at Rotterdam, the Netherlands, compared with a week earlier and a year ago:

Item	Nov. 12	Change from previous week	A year ago
	Dol. per bu.	*Cents per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 1 CWRS-13.5	6.47	−4	5.86
USSR SKS-14	(1)	(1)	(1)
Australian FAQ[2]	(1)	(1)	(1)
U.S. No. 2 Dark Northern Spring:			
14 percent	6.40	−6	5.33
15 percent	(1)	(1)	(1)
U.S. No. 2 Hard Winter:			
13.5 percent	6.34	−8	5.42
No. 3 Hard Amber Durum	8.26	0	7.25
Argentine	(1)	(1)	(1)
U.S. No. 2 Soft Red Winter	(1)	(1)	(1)
Feedgrains:			
U.S. No. 3 Yellow corn	4.24	+3	3.05
Argentine Plate corn	4.52	0	3.27
U.S. No. 2 sorghum	4.27	−2	3.27
Argentine-Granifero sorghum	4.31	−1	3.25
U.S. No. 3 Feed barley	3.87	+11	2.72
Soybeans:			
U.S. No. 2 Yellow	8.95	+45	6.17
EC import levies:			
Wheat	0	0	0
Corn	0	0	.32
Sorghum	0	0	.15

[1] Not quoted. [2] Basis c.i.f. Tilbury, England.
NOTE: Price basis 30- to 60-day delivery.

Australia's Grain Output Uncertain

Australia's 1974-75 grain production at this time is still somewhat uncertain, particularly in the southern areas where there is rust infection. Cool, windy weather has prevented the spread of rust to date, but warm, humid conditions during the next few weeks could affect yields and quality in South Australia and Victoria.

Wheat production currently is estimated at 11 million metric tons, compared with 12 million tons in 1973-74. Current estimates put production of barley at 3.2 million tons, oats at 1.1 million tons, and sorghum at 1.05 million. Comparable figures for 1973-74 are 2,467,000 tons, 1,160,000 tons, and 1,018,000 tons.

P.L. 480 Wheat To Bangladesh

Shipments in November are expected to bring the total U.S. wheat sent to Bangladesh under concessional sales terms or as direct aid since floods struck that country last summer to 166,000 metric tons.

Bangladesh has purchased 52,500 metric tons of wheat under Public Law (P.L.) 480 Title I for shipment from east coast U.S. ports during November 7-15. This shipment is expected to arrive at the port of Chittagong on or about December 20, 1974.

An additional purchase of 37,500 metric tons of wheat under a Purchase Authorization issued October 24, 1974, was expected to be loaded at U.S. ports during November 8-25, with the estimated time of arrival at Chittagong being December 10-25.

Approximately 73,000 metric tons of fiscal 1974 Title I wheat arrived in Bangladesh during the emergency flood situation of August 1974.

Under the Title II program, approximately 3,000 metric tons of wheat and 200 metric tons of vegetable oil are being shipped to Bangladesh for distribution under an emergency flood relief operation sponsored by the World Food Program. In addition, 5,000 metric tons of biscuits are being shipped by the Agency for International Development to Bangladesh for immediate distribution to flood victims.

EC Wheat Demand Strengthens

With soft winter wheat quality in the European Community below that of last year, the demand for high quality protein wheat by EC flour millers is considerably greater than in 1973-74. Increased demand, coupled with a reduced supply of higher grade Canadian wheat, has strengthened prices for U.S. high protein wheats. U.S. No. 2 Hard Red Winter was offered on November 6 at $233 per metric ton, Rotterdam, for December delivery. However, the same class of wheat containing an ordinary level of protein was selling at a price nearly 10 percent below that for the high protein wheat.

Australia and Egypt Conclude Wheat Deal

Australia has concluded a contract to supply Egypt with 1 million tons of wheat. This is the last contract under the 3-year agreement negotiated in 1973 to supply Egypt with 1 million tons of wheat annually.

Credit terms for the new contract were shortened to 12 months, compared to 18 months for the previous contract, and 3 years for the initial contract. Shipment is scheduled for

December 1974-December 1975. Total value of the sale is estimated by the Australian Wheat Board at A$150 million (US$198 million) depending on the grade of wheat. Some offgrade wheat will probably be included in the sale.

Negotiation for a new 3-year agreement reportedly did not take place at this time because neither party was eager for a new agreement under present market conditions.

Colombia Liberalizes Wheat Imports

To compensate for elimination of the wheat subsidy and to lower the cost of imported wheat, Colombia has reduced its customs duty on wheat and wheat seed imports to 0.5 percent ad valorem. Wheat imports for human consumption were previously subject to a 10 percent duty and wheat seed imports to a 7 percent duty. The additional "development" fee of 10 centavos required on each kilogram of such import product has been discontinued. (100 centavos=4 U.S. cents.)

Moreover, millers and wheat traders are now free to import wheat directly, whereas previously all wheat imports were made through a Government marketing agency.

TOBACCO

Philippine Flue-cured Crop Damaged

Flue-cured tobacco seedbeds in the major production area of the Philippines suffered severe typhoon damage in late October, according to industry reports. The effect on the 1975 Philippine flue-cured crop will depend on the extent of damage and the ability of growers to reestablish the seedbeds.

The Philippine Virginia Tobacco Administration recently reported that sales of the 1974 flue-cured tobacco crop totaled 65.6 million pounds. This is up 16.4 percent from the 56.3 million pounds traded in 1973. Farmers received an average of 38.8 U.S. cents per pound for the 1974 crop. This is 17 percent above the 1973 price and more than double the 1972 flue-cured priced.

Pakistan's Flue-cured Crop Prospects Brighten

Pakistan's 1974 tobacco crop unofficially is estimated to total 154 million pounds, up 11 percent over the 1973 crop, reversing a 7-year downtrend.

Flue-cured cigarette leaf, estimated at 50 million pounds, is expected to account for much of the 15.5 million pound increase in total production. Hookah (light sun-cured) and oriental, the other two major types, are estimated at 59 million and 24 million pounds, respectively.

The longer term outlook for flue-cured production appears favorable. Sharply reduced production in 1972 (23.5 million pounds) along with strong domestic cigarette consumption and leaf exports have dissipated the stocks that had accumulated with the loss of the Bangladesh market. The Pakistan Tobacco Board and Pakistan Tobacco Company are reported to have increased quality and yields. Production is expected to continue to expand, perhaps reaching 80 million pounds by 1980 if domestic consumption and exports increase at present rates. Output at this level could result in export availabilities of 30-40 million pounds.

Pakistan has not been a significant or consistent exporter of flue-cured tobacco. In recent years, shipments have ranged from 4 million to 10 million pounds except in 1972, when surpluses plus the devaluation of the rupee led to exports of nearly 18 million pounds. However, if world supplies remain tight and Pakistan's flue-cured tobacco improves in quality and remains competitive in price, it could become increasingly attractive to importers.

EC Ups Leaf Prices, Extends Export Subsidy

The European Community in two recent actions raised by 5 percent the 1974-75 support prices for leaf tobacco and added Badischer Geudertheimer cigar leaf from the 1972 and 1973 crops to the list of varieties eligible for export restitution. A subsidy of .28 units of account (u.a.) per kilogram (about 15 cents per lb.) will be paid on exports of this variety to specified countries in Europe, North Africa, the Far East, and South America.

In spite of high buyers' premiums and generally tight world tobacco supplies, demand for many types of EC tobacco apparently remains slack. The list of varieties eligible for restitution now has been increased to six since the EC first authorized export subsidies in January 1973. The subsidies being paid range from 7 to 15 cents per pound, depending on variety and crop.

In addition to export subsidies, the EC in recent months has authorized a $2.42 per pound "special premium" for cigar wrapper and issued an invitation to tender for export sale of over 17 million pounds of other tobaccos in surplus from the 1970 Italian crop.

DAIRY AND POULTRY

Greece Subsidizes Cheese Exports

According to the U.S. Embassy in Athens, Greece is subsidizing the export of 4,000 metric tons of feta and telemes cheese made from cow's milk. The subsidy will amount to 20 percent of the f.o.b. price of the cheese, but will not exceed 12.1 U.S. cents per pound. The subsidy is scheduled to terminate on December 31, 1974.

As of October 9, 1974, the supplemental import duty on butter was fixed at 33.87 U.S. cents per pound, regardless of the c.i.f. price. Previously, the supplemental levy varied with the c.i.f. price.

The supplemental levy on poultry meat imports remains at 17.77 U.S. cents per pound. This levy, plus the standard tariff, has eliminated all poultry meat imports.

New Zealand May Up Dairy Prices to U.K.

If the European Community Council of Ministers accepts the recent proposal of the EC Commission, New Zealand will be allowed to increase the price of butter and cheese it sells to the United Kingdom by 18 percent. Increases will be permitted effective January 1, 1975.

When Britain joined the EC, it was permitted to gradually phase out (by January 1, 1978) imports of certain dairy products from New Zealand, its traditional supplier. Prices were fixed by a historical average (1969-72), but recent production and transportation costs have prompted New Zealand to request an increase in the guaranteed prices. The proposed

18 percent increase is well below New Zealand's request for an increase of about 30 percent.

The proposal before the EC Council of Ministers would have no impact on the price paid by British consumers for these items, as levies paid by importers will be cut by an equal amount.

EC Butter Stocks Down

Stocks of butter in the European Community reached about 324,000 metric tons by the end of August this year; about two-thirds of these stocks were privately held. On the same date in 1973, the Community held stocks totaling 347,000 metric tons, of which only 40 percent were in private hands. Firm tendencies have been noted in the EC butter market since mid-August and prices have risen well above intervention levels. Structural surpluses still exist but vary from country to country depending on price levels, consumer subsidies, and subsidies for special uses.

LIVESTOCK AND PRODUCTS

EC Reduces Ham, Lard Export Subsidies

Effective November 1, 1974, the European Community export subsidy on lard will be reduced from 1.50 units of account (u.a.) per 100 kilograms (kg) to 1.20 u.a. per 100 kg. The canned ham export subsidy will be reduced from 30 u.a. per 100 kg to 24 u.a. This action was taken as an EC attempt to reduce incentives for production of these products to cut requirements for imported feedgrains and soybeans.

EC Keeps Beef Import Ban

The European Community Commission has decided to continue the beef import ban indefinitely. The Commission, however, told representatives of principal exporting countries that it would like to replace the present embargo with a new form of import restriction. The EC will be surplus in beef production at least into early 1975, and high levels of pork production are expected through mid-1975.

FRUIT, NUTS, AND VEGETABLES

Greece Sets Fruit Support Prices

Greece has announced minimum support prices for 1974 crop sultanas, raisins, and dried currants. Minimum support prices for sultanas in drachmas per kilogram are 22 for grade 1; 21.5 for grade 2; and 21 for grade 4. Minimum support prices for currants are as follows: Aegialia and Corinthia, shade-dried, 19.9; sun-dried, 18.8; and regular, 18.4; other Achaia, Ionian Islands, and Elia, shade-dried, 18.8; sun-dried, 18.4; and regular, 18; and Messinia, shade-dried, 18.4; sun-dried, 18; and regular, 17.6. Conversion rates are Dr30= US$1 and 1 kilogram=2.2 pounds.

Turkey's Dried Fig, Apricot Outturns Below 1973 Levels

Turkish production of dried figs and apricots is reported below the levels of last year. Damage to figs from a November 1973 freeze became apparent in the spring. However, favorable weather during the growing season alleviated the situation. Some rain was reported and cloudy and cool weather required a longer drying time for early lots. Damage was reported as minor. Later weather was hot and dry.

The 1974 dried fig crop is estimated at 42,500 metric tons and the dried apricot crop at 3,000 metric tons. Production during 1973 was 45,000 and 10,000 tons, respectively.

During the 1973-74 season, exports of dried figs were smaller, while those of dried apricots were larger. Fig and fig paste exports for 1973-74 were estimated at 35,000 metric tons, 16 percent below the 1972-73 level of 41,600 tons. Exports of dried apricots were estimated at 3,500 metric tons, 43 percent above the 2,000 tons in 1972-73. France and West Germany are the leading buyers of figs, while the United States and the United Kingdom are the leading markets for fig paste. France and the United States are the leading markets for dried apricots.

Japan Sets Fruit Import Quota

On October 25, Japan officially announced a global quota of 3,500 metric tons of fresh oranges and tangerines for the second half of the Japanese fiscal year (October 1974-March 1975). This brings the total quota for the year to 15,000 metric tons, identical to the allocation for 1973-74.

Historically, the quota has been expanded each year. This year, in view of the bumper crop of domestic Satsuma (Mikan) oranges, the Government of Japan decided not to increase the quota. During U.S. fiscal 1974, U.S. exports of fresh oranges and tangerines to Japan were valued at $4.3 million.

Dried Fig Crop Down in Greece

Greece reports a slightly smaller 1974 dried fig crop. Production is estimated at 19,250 metric tons, 4 percent below the 1973 crop of 20,075 metric tons. Rain was prevalent during pollination, but weather turned favorable during the main growing season. Quality and size are reported excellent.

Exports were smaller in the season just completed. Total 1973-74 exports are estimated at 7,100 metric tons, 5 percent below the 1972-73 total of 7,500 tons. Italy and West Germany are the two leading export markets for Greek figs.

Other Foreign Agriculture Publications

- World Tea Production Up Slightly in 1974 (FTEA 3-74)
- Near Record Coffee Crop for 1974-75 (FCOF 4-74)
- United States Continues To Be Net Dairy Importer in Fiscal 1974 (FD 4-74)
- World Cigarette Output Gains 3.7 Percent in 1973 (FT 5-74)
- Continued Uptrend in World Production and Trade of Palm Oil and Palm Products (FO 8-74)
- U.S. Export Sales (Released Oct. 31, 1974)

Single copies may be obtained free from the Foreign Agricultural Service, USDA, Washington, D.C. 20250, Rm. 5918 S.; Tel.: 202-447-7937.

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Mexico's Trade Deficit Continues High in 1974

Mexico's foreign trade deficit this year is continuing to climb and preliminary first quarter trade figures indicate it has just about caught up with last year's $1.8 billion deficit.

During the first quarter of 1974, Mexico's total imports exceeded those of the first quarter last year by 56 percent. Exports for the same 1974 period, buoyed by bigger shipments of manufactured items, were up 40 percent to $785 million (including reevaluation) to produce a first quarter deficit of about $540 million.

Total agricultural exports increased 12 percent as a 20-percent rise in semi-processed products offset a slight decline in key farm commodities. Cattle exports were 14 percent higher, at 176,000 head, and were up 180 percent in value to $13.5 million. First quarter exports of chick-peas and fresh fruits also rose.

In the semi-processed group, sugar exports were up 57 percent to a value of $40.7 million. Coffee prices in Mexico rose high enough to compensate for a slight decline in volume and nudged coffee exports up 3 percent in value, to $44.5 million. Cotton exports increased in both volume—up 14 percent—and value, pushed by prices 119 percent higher to $32.6 million. Tobacco exports rose 58 percent to $2.7 million.

On the import side, the value of consumer goods went up 80 percent, to $120.3 million. The major share of this was in the nondurable group. Mexico imported 40 percent more cereal grains, or 413,000 tons valued at $81.4 million during the first quarter of 1974, while milk imports, valued at $6.5 million, were up 36 percent to 12,485 tons.

Registering further increases, Mexico's oilseed imports jumped from 7,400 tons the first quarter of 1973 to 152,100 tons, valued at $36.2 million during the same 1974 period. Soybean meal imports were 18,900 tons valued at $3.2 million in 1974, compared with only 272 tons in 1973. During the first quarter of 1974, the import value of fishmeal increased to $745,000. Meanwhile, fats and oils soared to $13.8 million in value, sharply above $3.2 million for the same 1973 period. Animal feed imports during the first quarter of 1974 were also significantly above last year's level.

—By John E. Link, ERS

NEW ZEALAND EXPANDS MARKETS IN PERU

As a result of New Zealand's drive to expand its markets, Peru has become its third largest outlet for dairy products, behind the United Kingdom and Japan, and, in addition, has become a large importer of frozen New Zealand mutton. Sales of both dairy and sheep meat products have been financed by the Government of New Zealand through low-interest, long-term loans.

This high level of trade has generated a mutual desire for cooperation in the technical field. New Zealand has announced an international agreement with Peru for such technical cooperation, marking New Zealand's first aid program in Latin America.

Under the agreement, New Zealand will place a three-person agricultural team in the Puno area of Peru to aid in the development of livestock and pasture improvement programs, and to assist with meat marketing and distribution methods.

A forestry team also will be sent to Peru to work on nursery establishment, logging methods, and the exploitation of Peruvian native timbers. Plans call for a New Zealand park ranger to go to Peru to help establish a ranger service, while four Peruvian forest rangers train with the New Zealand Forest Service.

New Zealand aid programs have been closely linked with trade in developing countries. Peru is also a potential market for New Zealand grass seed exports.

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